WHAT IS CLAIMED IS:

1   1.   A method for providing wireless communication between a mobile station

2   and a network station using a context for message compression, comprising:

3   storing persistently profile-specific information in a profile-specific

4   dictionary; and

5   providing communication between the mobile station and the network

6   station using the profile-specific dictionary for message compression.

1   2.   The method of Claim 1, the profile-specific information comprising device

2   information.

1   3.   The method of Claim 1, the profile-specific information comprising user

2   information.

1   4.   The method of Claim 3, further comprising storing the user information in

2   an identity module, the identity module removable from the mobile station.

1   5.   The method of Claim 1, the profile-specific dictionary comprising a

2   plurality of dictionaries, and storing profile-specific information in the profile-specific

3   dictionary comprising storing in each of the plurality of dictionaries profile-specific

4   information corresponding to one of a plurality of mobile stations.

1   6.   The method of Claim 1, further comprising:

2   storing persistently protocol-specific information in a static dictionary; and

3   providing communication between the mobile station and the network

4   station further comprising providing communication between the mobile station and the

5   network station using the protocol-specific dictionary for message compression.

1   7.   The method of Claim 1, further comprising:

2   downloading code for at least one of a compressor operable to compress

3   messages and a decompressor operable to decompress messages; and

4   providing communication between the mobile station and the network

5   station further comprising providing communication between the mobile station and the

6   network station using the code.

1   8.   A system for providing wireless communication between a mobile station

2   and a network station using a context for message compression, comprising:

3   a computer-processable medium; and

4   logic stored on the computer-processable medium, the logic operable to

5   store persistently profile-specific information in a profile-specific dictionary and to

6   provide communication between the mobile station and the network station using the

7   profile-specific dictionary for message compression.

1   9.   The system of Claim 8, the profile-specific information comprising device

2   information.

1   10.   The system of Claim 8, the profile-specific information comprising user

2   information.

1   11.   The system of Claim 8, the profile-specific dictionary comprising a

2   plurality of dictionaries, and the logic operable to store profile-specific information in the

3   profile-specific dictionary by storing in each of the plurality of dictionaries profile-

4   specific information corresponding to one of a plurality of mobile stations.

1   12.   The system of Claim 8, the logic further operable to store persistently

2   protocol-specific information in a static dictionary and to provide communication

3   between the mobile station and the network station by providing communication using

4   the protocol-specific dictionary for message compression.

1   13.   The system of Claim 8, the logic further operable to download code for at

2   least one of a compressor operable to compress messages and a decompressor operable to

3   decompress messages and to provide communication between the mobile station and the

4   network station by providing communication using the code.

1   14.   A method for providing a dictionary for message compression,

2   comprising:

3   receiving a setup message from a mobile station;

4   searching for a common dictionary based on the setup message;

5   attempting to validate the common dictionary when the common

6   dictionary is found;

7   providing a common dictionary identifier associated with the common

8   dictionary to the mobile station when the common dictionary is validated; and

9   communicating with the mobile station using the common dictionary.

1   15.   The method of Claim 14, further comprising:

2   requesting the common dictionary from a compression server when no

3   common dictionary is found; and

4   requesting the common dictionary from the compression server when the

5   common dictionary is not validated.

1   16.   The method of Claim 15, further comprising:

2   receiving the common dictionary from the compression server; and

3   providing a common dictionary identifier associated with the common

4   dictionary to the mobile station when the common dictionary is received from the

5   compression server.

1   17.   The method of Claim 14, the common dictionary comprising a profile-

2   specific dictionary.

1   18.   The method of Claim 17, the profile-specific dictionary operable to store

2   persistently profile-specific information, the profile-specific information comprising

3   device information.

1   19.   The method of Claim 17, the profile-specific dictionary operable to store

2   persistently profile-specific information, the profile-specific information comprising user

3   information.

1   20.   The method of Claim 17, the profile-specific dictionary comprising a

2   plurality of dictionaries, each of the plurality of dictionaries operable to store persistently

3   profile-specific information corresponding to one of a plurality of mobile stations.

1   21.   The method of Claim 14, the common dictionary comprising a static

2   dictionary, the static dictionary operable to store persistently protocol-specific

3   information, the protocol-specific information comprising Session Initiation Protocol

4   information.

1   22.   A station for providing wireless communication using message

2   compression, comprising:

3   a dictionary module operable to store a plurality of dictionaries, each

4   dictionary operable to store a plurality of signaling message strings, one of the

5   dictionaries comprising a profile-specific dictionary;

6   a compressor coupled to the dictionary module, the compressor operable

7   to generate a first reference value corresponding to a first string in a first signaling

8   message that is to be communicated and to communicate the first reference value instead

9   of the first string; and

10   a decompressor coupled to the dictionary module, the decompressor

11   operable to receive a second reference value and to recover a second string in a second

12   signaling message based on the second reference value.

1   23.   The station of Claim 22, the profile-specific dictionary operable to store

2   persistently profile-specific information, the profile-specific information comprising

3   device information.

1   24.   The station of Claim 22, the profile-specific dictionary operable to store

2   persistently profile-specific information, the profile-specific information comprising user

3   information.

1   25.   The station of Claim 24, the profile-specific dictionary comprising an

2   identity module operable to store persistently the user information, the identity module

3   removable from the station.

1   26.   The station of Claim 22, the profile-specific dictionary comprising a

2   plurality of dictionaries, each of the plurality of dictionaries operable to store persistently

3   profile-specific information corresponding to one of a plurality of mobile stations.

1   27.   The station of Claim 22, a second one of the dictionaries comprising a

2   static dictionary, the static dictionary operable to store persistently protocol-specific

3   information, the protocol-specific information comprising Session Initiation Protocol

4   information.

1   28.   A method for synchronizing dictionaries for message compression

2   between a first station and a second station, comprising:

3   identifying a rollback initiating event at the first station;

4   selecting at the first station a checkpoint dictionary based on the rollback

5   initiating event;

6   communicating an index value from the first station to the second station,

7   the index value operable to identify the checkpoint dictionary; and

8   using the checkpoint dictionary for message compression.

1   29.   The method of Claim 28, using the checkpoint dictionary for message

2   compression comprising replacing a previously used dictionary with the checkpoint

3   dictionary.

1   30.   The method of Claim 28, the rollback initiating event comprising one of

2   an error-detecting code mismatch and a checkpoint rejection.

1   31.   The method of Claim 28, further comprising:

2   identifying a checkpoint initiating event at an initiator, the initiator

3 comprising one of the first station and the second station;

4   storing at the initiator a second checkpoint dictionary based on the

5 checkpoint initiating event; and

6   sending a checkpoint initiation from the initiator to a responder, the

7 responder comprising the one of the first station and the second station other than the

8 initiator, the checkpoint initiation comprising an index value operable to identify the

9 second checkpoint dictionary.

1   32.   The method of Claim 31, further comprising storing at the responder the

2 second checkpoint dictionary.

1   33.   The method of Claim 31, the checkpoint initiating event comprising one of

2 an expiration of a timer and a checkpoint initiation request.

1   34.   The method of Claim 28, the checkpoint dictionary comprising a dynamic

2 dictionary.

1   35.   The method of Claim 34, the checkpoint dictionary further comprising a

2 profile-specific dictionary.

1   36.   A method for synchronizing dictionaries for message compression

2   between a first station and a second station, comprising:

3   identifying a checkpoint initiating event at the first station;

4   storing at the first station a checkpoint dictionary based on the checkpoint

5   initiating event; and

6   sending a checkpoint initiation from the first station to the second station,

7   the checkpoint initiation comprising an index value operable to identify the checkpoint

8   dictionary.

1   37.   The method of Claim 36, further comprising storing at the second station

2   the second checkpoint dictionary.

1   38.   The method of Claim 36, the checkpoint initiating event comprising one of

2   an expiration of a timer and a checkpoint initiation request.

1   39.   The method of Claim 36, the checkpoint dictionary comprising a dynamic

2   dictionary.

1   40.   - The-method of Claim- 39,- the checkpoint dictionary further comprising a

2   profile-specific   dictionary.

1   41.   A dictionary module for providing message compression for wireless

2   communication between a mobile station and a network station, comprising:

3   a dynamic dictionary operable to store signaling messages exchanged

4   between the mobile station and the network station during a particular communication

5   session; and

6   a profile-specific dictionary operable to store persistently signaling

7   messages related to a profile for the mobile station.

1   42.   The dictionary module of Claim 41, the signaling messages related to the

2   profile for the mobile station comprising device information.

1   43.   The dictionary module of Claim 41, the signaling messages related to the

2   profile for the mobile station comprising user information.

1   44.   The dictionary module of Claim 43, the profile-specific dictionary

2   comprising an identity module, the identity module operable to store the user

3   information, the identity module removable from the mobile station.

1   45.   The dictionary module of Claim 41, the profile-specific dictionary

2   comprising a plurality of dictionaries, each of the plurality of dictionaries operable to

3   store persistently signaling messages related to a profile for one of a plurality of mobile

4   stations.

1   46.   The dictionary module of Claim 41, further comprising a static dictionary

2   operable to store persistently signaling messages related to a protocol for the mobile

3   station.

1   47.   The dictionary module of Claim 46, the protocol comprising Session

2   Initiation Protocol.

1   48.   The dictionary module of Claim 41, further comprising a checkpoint

2   dictionary operable to store a copy of a particular version of the dynamic dictionary based

3   on a checkpoint initiating event.

1   49.   The dictionary module of Claim 48, the checkpoint dictionary further

2   operable to store a copy of a particular version of the profile-specific dictionary.

1   50.   The dictionary module of Claim 48, the checkpoint dictionary comprising

2   a plurality of dictionaries, each of the plurality of dictionaries operable to store a copy of

3   a different version of the dynamic dictionary.

1   51.   The dictionary module of Claim 50, each of the plurality of dictionaries

2   further operable to store a copy of a different version of the profile-specific dictionary.

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